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1990 Population Estimates for Utah and Its Counties

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According to the estimates from the Population Estimates Committee, the population of Utah reached 1,729,000 as of July 1, 1990, which represents an increase of 24,000, or 1.4 percent over the revised 1989 figure of 1,705,000. This is the largest percent increase in the last six years. Utah's estimate includes the preliminary natural increase of 26,619 persons, and an implied net out-migration of almost 1,900.

The April 1, 1990 Census yielded a count of 1,722,850 people in the State of Utah. A July 1, 1990 estimate was then prepared by the Population Estimates Committee. It might be asked why a population estimate was prepared during a Census year. There were two main reasons for producing this estimate: 1) to maintain a comparable time series (intercensal estimates are centered on July 1 of each year); and 2) to examine population changes in the past year (1989-90).

Thirteen counties in Utah gained population in the last year. Nine counties declined in population, and seven counties had no appreciable change in population over the last year. Most of Utah's population increase occurred in two counties: Salt Lake (9,000) and Utah (8,000). These two counties accounted for over 70 percent of the state's increase in 1990. Daggett county had the largest growth rate for the year (7.7 percent); however, because of Daggett county's size, the actual increase was only 50 people. Washington and Summit counties tied for second fastest growth in the state, with 4 percent each, followed by Utah and Iron counties, with 3.1 and 2.5 percent respectively.

Natural increase, which is the measure of births minus deaths, was the second lowest number since 1976. The period from July 1, 1989 through June 30, 1990, showed both births and deaths staying fairly constant compared to the previous year.

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Utah experienced substantial employment growth during 1989-90, and it is often assumed that given this increase, Utah should be experiencing a net in-migration of population. This is not the case for the past year. While there has been a dramatic decrease in net out-migration (from -6,300 in 1989 to -1,900 in 1990), there has still been net out-migration in the state in the past year.

Table 1 displays, county by county, the natural increase and implied net migration resulting from the revised 1989 and preliminary 1990 population estimates. It is important to note that while there has been a substantial decrease in the net out-migration for the state, this positive change carries over to only a very few counties. Only nine counties experienced any net in-migration in the last year, and of these, only five experienced more than a net increase of 60 people. The significance of this is that population growth resulting from migration can mainly be imputed to three counties: Summit (+433), Utah (+2,153), and Washington (+1,326). While the net out-migration is expected to decline further this year, it must be noted that the state-level positive changes do not necessarily translate into state-wide changes of the same magnitude.

Growth in the Decade of the 1980s

Utah's population increased by 261,813 (from 1,461,037 on April 1, 1980 to 1,722,850 on April 1, 1990) during the decade of the 1980s. This increase was due entirely to births in the state. Since natural increase for the decade was 292,000, there is an implied net out-migration of over 30,000 for the decade of the 1980s.

The metropolitan counties of the Wasatch Front -- Davis, Utah, Salt Lake and Weber -- grew by 28.3, 20.9, 17.3 and 9.5 percent, respectively, in the 1980s. The state growth for the same period was 17.9 percent. These metropolitan counties also remained the four largest in the state, accounting for over 75 percent of total state population. Salt Lake county remains the largest county in the state, accounting for 42 percent of the total state population.

The fastest growing counties -- Washington and Summit - grew by 86.3 and 52.2 percent respectively. This growth for Washington county translates into an annual average rate of change of over 6 percent per year.

Six counties (Piute, Carbon, Emery, Daggett, Rich and Grand) actually lost population over the last ten years. Each of the counties which experienced loss was heavily dependent on energy-related development, which declined dramatically in the 1980s.

The Demographic and Economic Analysis Section of the State Office of Planning and Budget has prepared the first in a series of Census Briefs: "Cities and Counties of Utah". This report contains more analysis regarding county growth in the 1980s. The series of briefs is designed to analyze specific data derived from the 1990 Census of Population and Housing. Copies of this report can be obtained by calling 801-538-1036.

Methodology for Estimating Population

In order to produce a 1990 estimate consistent with the Census count, the Population Estimates Committee first produced a 1990 estimate using an average of the two standard methodologies of School Enrollment and L.D.S. Membership Methods. The 1990 methodologies used the 1989 estimate produced last year by the Committee as their origin. The Committee then made the assumption that the annual growth rate implied by averaging the two methodologies was reliable. The 1989-90 growth rates, by county, were then applied to the 1990 Census counts by county. To establish a 1989 revised estimate, 75 percent of the 1989-90 growth rate was subtracted from the April 1 Census; while 25 percent of the same growth rate was added on to the April 1 count. The result of this procedure was that a 1.4 percent growth was maintained for the state for the past year, while 'centering' on the actual population count as of April 1.

The school enrollment method compares a county's survived enrollment in grades 1-8 for the previous year to grades 2-9 in the present years. The difference between the two enrollment totals is taken to be net student migration for the county. Total net migration for the county is then derived by multiplying the county's student migration estimate by the county-specific total population-to-student ratio. This ratio is defined as the total population

Table 1

Revised 1989 and Preliminary 1990 Population Estimates By County

County	1989 Revised Estimate	1990 Natural Increase	Net Migration	1990 Preliminary Estimate	1989 Revised Estimate	1990 Preliminary Estimate	1989-90 Growth Rate
Beaver	4,774	25	(27)	4,772	4,750	4,750	0.0
Box Elder	36,472	497	(476)	36,493	36,500	36,500	0.0
Cache	69,182	1,326	11	70,519	69,200	70,500	1.9
Carbon	20,415	152	(392)	20,175	20,400	20,200	-1.0
Daggett	649	8	47	704	650	700	7.7
Davis	185,925	3,164	(619)	188,470	186,000	188,000	1.1
Duchesne	12,773	169	(340)	12,602	12,800	12,600	-1.6
Emery	10,438	113	(253)	10,298	10,400	10,300	-1.0
Garfield	4,000	32	(64)	3,968	4,000	3,950	-1.3
Grand	6,700	45	(150)	6,595	6,700	6,600	-1.5
Iron	20,425	312	173	20,910	20,400	20,900	2.5
Juab	5,887	40	(131)	5,796	5,900	5,800	-1.7
Kane	5,221	53	(122)	5,152	5,200	5,150	-1.0
Millard	11,338	127	(141)	11,324	11,300	11,300	0.0
Morgan	5,433	66	59	5,558	5,450	5,550	1.8
Piute	1,307	4	(48)	1,263	1,300	1,250	-3.8
Rich	1,741	30	(44)	1,727	1,750	1,750	0.0
Salt Lake	719,255	10,842	(1,933)	728,164	719,000	728,000	1.3
San Juan	12,618	190	(191)	12,617	12,600	12,600	0.0
Sanpete	15,998	156	182	16,336	16,000	16,300	1.9
Sevier	15,421	123	(118)	15,426	15,400	15,400	0.0
Summit	15,053	199	433	15,685	15,100	15,700	4.0
Tooele	26,434	292	(58)	26,668	26,400	26,700	1.1
Uintah	22,163	307	(250)	22,220	22,200	22,200	0.0
Utah	257,912	5,595	2,153	265,660	258,000	266,000	3.1
Wasatch	9,978	128	-14	10,120	10,000	10,100	1.0
Washington	47,159	576	1,326	49,061	47,200	49,100	4.0
Wayne	2,204	16	(56)	2,164	2,200	2,150	-2.3
Weber	157,510	2,032	(835)	158,707	158,000	159,000	0.6
	1,704,385	26,619	(1,853)	1,729,151	1,705,000	1,729,000*	1.4

* Note: Totals may not add due to rounding

Source: Utah Population Estimates Committee

estimate for the county for the previous year divided by the previous year's grades 1-8 school enrollment. The second component of the school enrollment method is the calculation of natural increase in the county. Natural increase for any year is defined as the number of births minus the number of deaths. This method is limited in estimating migration among the retired, college students, single persons and other groups that are not represented in school enrollment estimates.

The L.D.S. membership method uses a total population to L.D.S. membership ratio which is obtained by dividing the previous year's population of that year's L.D.S. membership. This ratio is applied to the current L.D.S. membership to obtain a county population estimate. This method is relatively accurate in areas with high proportions of L.D.S. membership and low migration rates.

Intercensal Population Estimates for the 1980s

The Population Estimates Committee is in the process of preparing a revised set of intercensal estimates for the 1980s based on the 1990 Census counts. This process will take a number of months, and will make use of detailed Census data as it becomes available. It is possible that when the set of estimates is completed, the 1989 estimate may be slightly different, but no significant changes are expected.

The Estimates Committee will also be conducting an extensive evaluation of its methodologies. This will result in improvements from either the updating or expanding of methods to better estimate population in Utah in the 1990s.

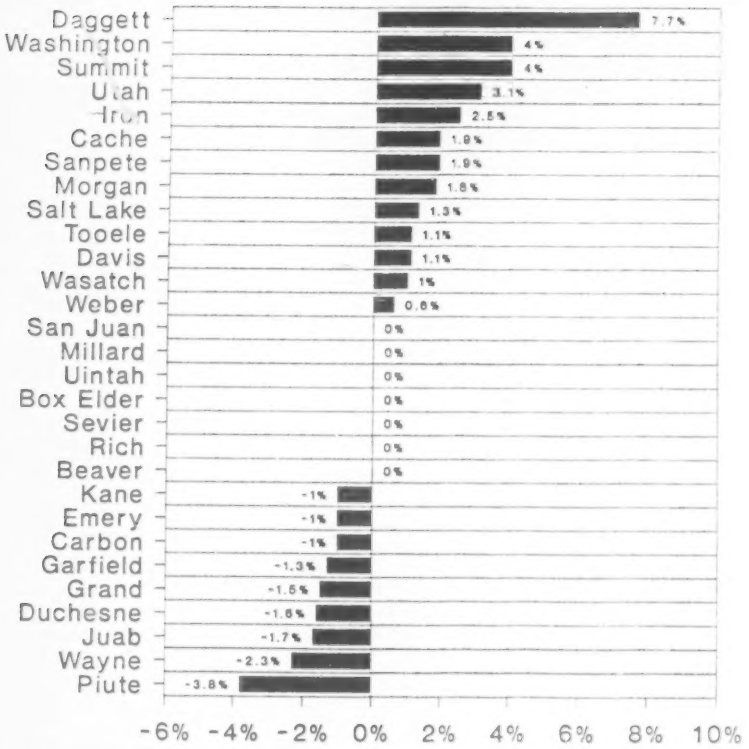
Table 2
Resident Utah Births, Deaths
and Natural Increase
Calendar and Fiscal Years 1970-1989/90

	Calendar Year (year ending 12/31)			Fiscal Year (year ending 6/30)		
Year	Births	Deaths	Natural Increase	Births	Deaths	Natural Increase
1970	26,969	7,063	19,906	25,601	6,927	18,674
1971	27,552	7,245	20,307	27,407	7,207	20,200
1972	26,911	7,323	19,588	27,146	7,236	19,910
1973	27,978	7,573	20,405	27,562	7,517	20,045
1974	29,946	7,380	22,566	28,876	7,496	21,380
1975	31,667	7,519	24,148	30,566	7,515	23,051
1976	35,310	7,472	27,838	33,773	7,378	26,395
1977	37,956	7,612	30,344	36,709	7,595	29,114
1978	38,811	7,871	30,940	38,265	7,687	30,578
1979	41,078	7,871	33,207	40,134	7,846	32,288
1980	41,786	8,103	33,683	41,591	8,108	33,483
1981	41,286	8,263	33,023	41,511	8,112	33,399
1982	41,537	8,502	33,035	41,774	8,404	33,370
1983	39,441	8,484	30,957	40,557	8,346	32,211
1984	38,286	8,944	29,342	38,643	8,886	29,757
1985	37,441	9,044	28,397	37,508	8,923	28,585
1986	36,383	8,886	27,497	37,145	8,790	28,355
1987	35,285	9,055	26,230	35,469	8,813	26,656
1988	36,040	9,185	26,855	35,648	9,122	26,526
1989	35,541	9,223	26,318	35,549	8,916	26,633
1990	Na	Na	Na	35,569	8,950	26,619

Na: Not available

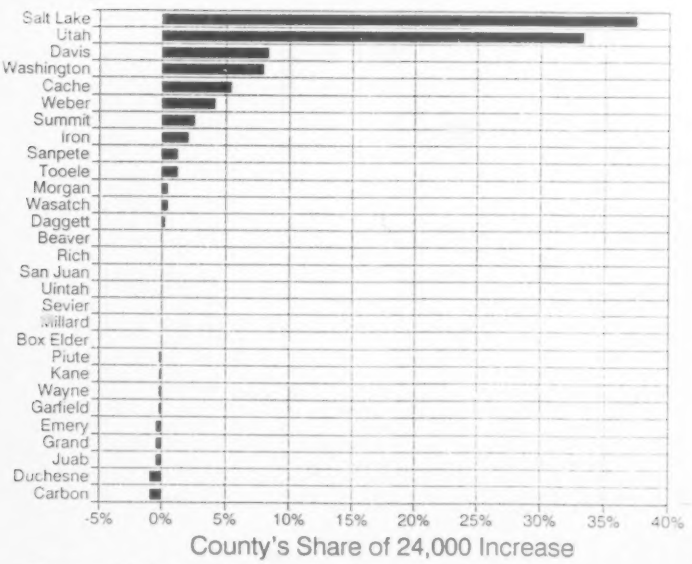
Source: Utah Population Estimates Committee.

1989-90 Growth Rate by County



Source: Utah Population Estimates Committee

Distribution of 1989-90 Growth by County



Source: Utah Population Estimates Committee

Selected 1990 Census Information for Eleven Coterminous Western States

Population Change by State -- 1970-1990

	1970 Census	1980 Census	1990 Resident Population
United States	203,302,031	226,504,825	248,709,873
Eleven Western States	33,765,747	41,799,718	51,127,810
Arizona	1,775,399	2,717,866	3,665,228
California	19,971,069	23,668,562	29,760,021
Colorado	2,209,596	2,888,834	3,294,394
Idaho	713,015	943,935	1,006,749
Montana	694,409	786,690	799,065
Nevada	488,738	799,184	1,201,833
New Mexico	1,017,055	1,299,968	1,515,069
Oregon	2,091,533	2,632,663	2,842,321
Utah	1,059,273	1,461,037	1,722,850
Washington	3,413,244	4,130,163	4,866,692
Wyoming	332,416	470,816	453,588

Percentage of Nation's Population

	1970	1980	1990
Eleven Western States	16.6	18.5	20.6
Arizona	0.9	1.2	1.5
California	9.8	10.4	12.0
Colorado	1.1	1.3	1.3
Idaho	0.4	0.4	0.4
Montana	0.3	0.3	0.3
Nevada	0.2	0.4	0.5
New Mexico	0.5	0.6	0.6
Oregon	1.0	1.2	1.1
Utah	0.5	0.6	0.7
Washington	1.7	1.8	2.0
Wyoming	0.2	0.2	0.2

Percentage of Eleven Western States' Population

	1970	1980	1990
Arizona	5.3	6.5	7.2
California	59.1	56.6	58.2
Colorado	6.5	6.9	6.4
Idaho	2.1	2.3	2.0
Montana	2.1	1.9	1.6
Nevada	1.4	1.9	2.4
New Mexico	3.0	3.1	3.0
Oregon	6.2	6.3	5.6
Utah	3.1	3.5	3.4
Washington	10.1	9.9	9.5
Wyoming	1.0	1.1	0.9

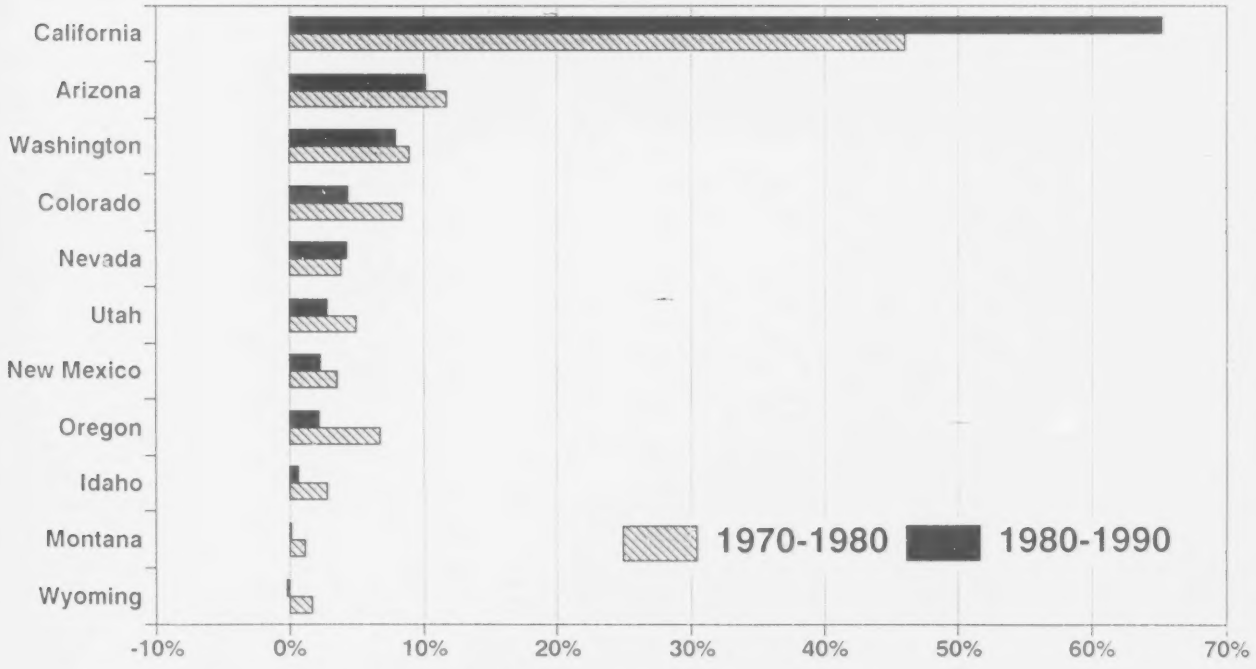
Source: U. S. Dept. of Commerce, Bureau of the Census, Census of Population, 1970, 1980, 1990, Washington, D.C.

Regional Changes and Share of Changes in Eleven Western States

	Changes in Population		State's Share of Change in Eleven Western States	
	1970-1980	1980-1990	1970-1980	1980-1990
United States	23,202,794	22,205,048		
Eleven Western States	8,033,971	9,328,092		
Arizona	942,467	947,362	11.73%	10.16%
California	3,697,493	6,091,459	46.02%	65.30%
Colorado	679,238	405,560	8.45%	4.35%
Idaho	230,920	62,814	2.87%	0.67%
Montana	92,281	12,375	1.15%	0.13%
Nevada	310,446	402,649	3.86%	4.32%
New Mexico	282,913	215,101	3.52%	2.31%
Oregon	541,130	209,658	6.74%	2.25%
Utah	401,764	261,813	5.00%	2.81%
Washington	716,919	736,529	8.92%	7.90%
Wyoming	138,400	(17,228)	1.72%	-0.18%

Source: U. S. Department of Commerce, Bureau of the Census, Census of Population, 1970, 1980, 1990, Washington, D.C.

State's Share of Change in Eleven Western States



Source: Calculated from data on page 6 by Bureau of Economic and Business Research.

Utah Business Statistics

UTAH DATA	Oct. 1989	Oct. 1990	% Change from Year Ago	12-Month Average This Year	12-Month Average Last Year	12-Month Average % Change
Davis County						
Non-Ag. Employment (thous.)	58.0r	59.2f	2.1%	58.4	56.1	4.1%
Unemployment Rate	4.5r	4.3	-4.4%	4.2	4.2	0.0%
Auth. Permit Construction (thous. of dol.)	16,199.4	16,975.4	4.8%	10,856.0	10,019.2	8.4%
New Dwelling Units (no.)	88	105	19.3%	79	67	17.2%
Postal Receipts (thous. of dol.)	821.3	825.5	0.5%	642.1	594.5	8.0%
Electric Customers (Residential)	49,494	50,211	1.4%	49,865	48,858	2.1%
Electric Customers (Commercial)	3,636	3,741	2.9%	3,678	3,606	2.0%
Natural Gas Customers (Residential)	51,590	52,913	2.6%	52,777	51,607	2.3%
Natural Gas Customers (Industrial)	55	56	1.8%	56	55	1.8%
Telephone Lines in Service (Mt. Bell)(Residential)	57,638	61,062	5.9%	59,791	56,671	5.5%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	12,188	13,066	7.2%	12,709	11,870	7.1%
Salt Lake County						
Non-Ag. Employment (thous.)	357.9r	376.0f	5.1%	366.0	350.4	4.5%
Unemployment Rate	4.0r	4.1	2.5%	4.0	4.2	-5.6%
Auth. Permit Construction (thous. of dol.)	25,200.0	45,802.1	81.8%	49,379.3	33,435.2	37.7%
New Dwelling Units (no.)	152	234	53.9%	204	162	26.2%
Postal Receipts (thous. of dol.)	8,240.3	8,286.0	0.6%	8,038.0	8,213.0	-2.1%
Electric Customers (Residential)	243,658	247,887	1.7%	246,115	242,740	1.4%
Electric Customers (Commercial)	20,935	21,178	1.2%	21,141	20,832	1.5%
Natural Gas Customers (Residential)	223,405	227,897	2.0%	228,015	223,960	1.8%
Natural Gas Customers (Industrial)	244	245	0.4%	245	241	1.7%
Telephone Lines in Service (Mt. Bell)(Residential)	237,769	246,881	3.8%	242,076	233,269	3.8%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	113,677	119,830	5.4%	117,138	112,554	4.1%
Utah County						
Non-Ag. Employment (thous.)	91.2r	96.7f	6.0%	91.8	85.9	6.8%
Unemployment Rate	4.3r	4.1	-4.7%	3.8	4.1	-7.7%
Auth. Permit Construction (thous. of dol.)	11,183.4	25,346.7	126.6%	15,765.0	12,651.7	24.6%
New Dwelling Units (no.)	106	106	0.0%	102	74	38.4%
Postal Receipts (thous. of dol.)	1,590.0	1,752.0	10.2%	1,690.1	1,396.6	21.0%
Electric Customers (Residential)	53,750	56,878	5.8%	53,555	53,088	0.9%
Electric Customers (Commercial)	6,260	7,351	17.4%	7,080	6,099	16.1%
Natural Gas Customers (Residential)	62,893	64,486	2.5%	64,309	62,884	2.3%
Natural Gas Customers (Industrial)	73	74	1.4%	74	73	0.6%
Telephone Lines in Service (Mt. Bell)(Residential)	67,154	68,438	1.9%	66,881	66,089	1.2%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	19,636	21,483	9.4%	20,627	20,976	-1.7%
Weber County						
Non-Ag. Employment (thous.)	64.1r	68.2f	6.4%	66.6	63.7	4.5%
Unemployment Rate	5.7r	5.7	0.0%	5.5	5.4	1.2%
Auth. Permit Construction (thous. of dol.)	6,324.5	9,573.4	51.4%	7,373.7	5,516.0	33.7%
New Dwelling Units (no.)	38	60	57.9%	45	44	1.3%
Postal Receipts (thous. of dol.)	694.2	749.7	8.0%	721.4	683.0	5.6%
Electric Customers (Residential)	54,333	54,992	1.2%	54,771	54,132	1.2%
Electric Customers (Commercial)	5,036	5,126	1.8%	5,094	5,001	1.9%
Natural Gas Customers (Residential)	50,130	51,182	2.1%	51,214	50,461	1.6%
Natural Gas Customers (Industrial)	85	81	-4.7%	83	84	-2.2%
Telephone Lines in Service (Mt. Bell)(Residential)	47,752	47,469	-0.6%	47,093	47,242	-0.3%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	12,385	13,374	8.0%	13,064	12,206	7.0%

1 Obtained from U.S. Bureau of the Census Construction Statistics Division.
2 Obtained from *Utah Construction Report*.
3 Includes services by nonprofit and religious organizations.
4 Includes public schools and college institutions.

NA Not Available
r Revised
f Forecast

Sources:

Personal Income	U.S. Department of Commerce, Bureau of Economic Analysis.
New Corporations	Utah Secretary of State.
New Car and Truck Sales	Utah State Tax Commission, Economic and Statistical Unit.
Agriculture	U.S. Department of Agriculture, Utah Agricultural Statistics Service, *Utah Agriculture*.
Construction Data	U.S. Bureau of the Census and Bureau of Economic and Business Research, *Utah Construction Report*.
Employment Data	Utah Department of Employment Security.
Savings Information	Utah Savings and Loan Institutions.
Tax Collections	Utah State Tax Commission.
Crude Oil Production	Utah Department of Oil, Gas, and Mining and Area Oil Refineries.
Natural Gas Production	Utah Department of Oil, Gas, and Mining.
Coal Production	U.S. Department of Energy.
Air Passengers	Salt Lake City International Airport, Statistics Division.
Highway Traffic Count	Utah Department of Transportation.
Visits to State and National Parks and Monuments	U.S. Forest Service, Utah State Parks and Recreation Department.
Utilities Data	Cooperating Utah Utility Companies.
Postal Receipts	Postmasters in Davis, Salt Lake, Utah, and Weber Counties.

Utah Business Statistics

UTAH DATA	Oct. 1989	Oct. 1990	% Change from Year Ago	12-Month Average This Year	12-Month Average Last Year	12-Month Average % Change
Total Personal Income (seasonally adjusted) (mil. of dol.) (qtly.)	22,965	NA	NA	NA	22,042	NA
New Corporations (no.)	430	546	27.0%	505	465	8.6%
New Car, Truck, and Motor Home Sales (no.)	4,685	5,426	15.8%	5,108	5,121	-0.3%
Agriculture						
Average Prices Recorded by Farmers (dol.)						
Beef Steers and Heifers (cwt) (thous.)	71.40	76.90	7.7%	75.83	71.63	5.9%
Lambs (cwt)	57.40	47.40	-17.4%	50.56	62.32	-18.9%
Milk Wholesale (cwt)	13.70	12.10	-11.7%	13.48	12.28	9.8%
Alfalfa Hay, Baled (per ton)	85.00	85.00	0.0%	84.92	83.42	1.8%
Cattle Slaughtered (live weight) (thous. of lbs.)	51,315	49,044	-4.4%	47,255	47,856	-1.3%
Construction						
Total Construction (thous. of dol.) 1	77,059.7	102,207.8	32.6%	87,372.1	75,292.3	16.0%
Residential	40,285.3	50,209.0	24.6%	44,103.3	35,642.1	23.7%
Nonresidential	24,081.1	34,418.5	42.9%	28,651.3	24,538.5	16.8%
Additions, Alterations, and Conversions	12,693.3	17,580.4	38.5%	14,617.6	15,111.7	-3.3%
Total Permit Construction (thous. of dol.) 2	85,729.6	120,042.9	40.0%	106,164.5	79,571.2	33.4%
Residential	40,918.5	55,881.3	36.6%	48,189.8	36,429.9	32.3%
Nonresidential	30,987.4	48,514.8	56.6%	38,519.8	29,299.0	31.5%
Additions, Alterations, and Repairs	13,823.7	15,646.8	13.2%	19,454.9	13,842.3	40.5%
New Dwelling Units (no.)	524	674	28.6%	582	462	25.9%
Employment						
Civilian Labor Force (thous.)	802.3	813.1	1.3%	799.6	783.9	2.0%
Total Employed Persons	770.6	781.3	1.4%	764.1	747.4	2.2%
Unemployed Persons	31.7	31.8	0.3%	35.5	36.1	-1.7%
Percent Total Labor Force	3.9	3.9	0.0%	4.4	4.7	-5.0%
Employees on Nonagricultural Payrolls (thous. of jobs)	705.1	737.0	4.5%	717.6	685.4	4.7%
Manufacturing	104.7	108.1	3.2%	105.4	102.6	2.7%
Mining	8.5	8.6	1.2%	8.6	8.0	7.2%
Contract Construction	27.8	29.3	5.4%	26.9	25.8	4.3%
Transportation, Communication, and Utilities	41.5	42.8	3.1%	42.6	40.6	4.9%
Wholesale Trade	39.0	39.8	2.1%	40.0	38.2	4.7%
Retail Trade	130.8	138.0	5.5%	134.5	126.3	6.5%
Finance, Insurance, and Real Estate	33.5	34.1	1.8%	34.0	33.3	2.1%
Services 3	170.7	183.3	8.0%	176.9	165.0	7.2%
Federal Government	39.6	38.6	-2.5%	40.0	40.0	0.0%
State Government 4	41.2	42.4	2.9%	41.6	39.8	4.5%
Local Government 4	67.8	70.9	4.6%	67.3	65.8	2.2%
Average Weekly Hours						
Manufacturing	40.4	39.9	-1.2%	39.9	40.0	-0.2%
Mining	40.7	44.9	10.3%	43.2	40.8	5.9%
Wholesale Trade	38.0	37.1	-2.4%	37.2	37.6	-1.2%
Retail Trade	27.5	26.6	-3.3%	26.8	27.4	-2.4%
Amount of Unemployment Compensation (thous. of dol.)	3,374.3	3,741.2	10.9%	4,904.7	5,156.7	-4.9%
Finance						
Savings, Savings and Loan Association (mil. of dol.)	2,175.0	1,181.4	-45.7%	1,784.5	2,231.9	-20.0%
Tax Collections by the State of Utah (thous. of dol.)						
Total Tax Collections	321,660.4	NA	NA	NA	172,888.7	NA
Sales and Use Tax	171,813.9	NA	NA	NA	67,620.5	NA
Motor Fuel Tax	11,792.4	NA	NA	NA	11,676.1	NA
Individual Income Tax	66,016.2	NA	NA	NA	53,648.1	NA
Corporation Franchise Tax	-6,822.2	NA	NA	NA	6,535.5	NA
Production						
Crude Oil to Refineries (thous. of bbls.)	3,618.5	NA	NA	NA	4,041.2	NA
Crude Oil (thous. of bbls.)	2,409.2	2,295.4	-4.7%	2,301.6	2,397.5	-4.0%
Natural Gas (mil. of cu. ft.)	23,893.1	28,297.7	18.4%	26,047.6	23,033.8	13.1%
Coal (thous. short tons)	1,775.0	2,171.0	22.3%	1,941.5	1,628.3	19.2%
Tourism/Travel						
Air Passengers (total no. on and off)(S.L. Int'l Airport)	952,412	903,789	-5.1%	1,001,973	969,175	3.4%
Highway Traffic Count Across State Lines	41,914	44,930	7.2%	43,532	37,506	16.1%
Transient Room Tax (thous. of dol.)	1,557.9	NA	NA	NA	652.9	NA
Visits, State, Nat'l. Parks, Monuments (thous.)	973.0	978.9	0.6%	1,111.6	1,105.1	0.6%
Utilities						
Telephone Lines in Service (Mt. Bell)(Residential)	506,176	524,531	3.6%	514,046	498,201	3.2%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	186,334	198,211	6.4%	193,010	185,291	4.2%
Electric Customers (Residential)	485,422	NA	NA	NA	483,078	NA
Electric Customers (Commercial)	48,252	NA	NA	NA	47,925	NA
Natural Gas Customers (Residential & Commercial)	472,550	485,128	2.7%	484,547	470,548	3.0%
Natural Gas Customers (Industrial)	565	576	1.9%	571	563	1.4%

Utah Business Statistics

UTAH DATA	Nov. 1989	Nov. 1990	% Change from Year Ago	12-Month Average This Year	12-Month Average Last Year	12-Month Average % Change
Total Personal Income (seasonally adjusted) (mil. of dol.) (qtly.)	22,965	NA	NA	NA	22,184	NA
New Corporations (no.)	393	382	-2.8%	501	463	8.2%
New Car, Truck, and Motor Home Sales (no.)	4,596	4,596	4.5%	5,121	5,091	0.6%
Agriculture						
Average Prices Recorded by Farmers (dol.)						
Beef Steers and Heifers (cwt) (finest)	72.70	78.10	7.4%	76.28	72.18	5.7%
Lambs (cwt)	33.70	31.20	-22.7%	40.55	61.57	-34.2%
Milk Wholesale (cwt)	14.40	11.70	-18.8%	13.25	12.17	8.8%
Alfalfa Hay, Baled (per ton)	85.00	86.00	1.2%	85.00	82.08	3.6%
Cattle Slaughtered (live weight) (thous. of lbs.)	46,122	46,535	-8.3%	47,124	48,277	-2.4%
Construction						
Total Construction (thous. of dol.)	70,018.5	58,180.4	-21.3%	85,820.9	76,668.7	11.9%
Residential	43,107.9	43,196.8	0.2%	44,108.2	36,025.6	22.4%
Nonresidential	24,189.3	16,728.1	-60.5%	28,038.3	24,606.1	13.9%
Additions, Alterations, and Repairs	10,701.0	8,176.4	-58.1%	13,674.4	16,037.0	-14.7%
Total Permit Construction (thous. of dol.) (C)	84,816.0	72,777.3	-13.2%	105,231.6	81,620.5	28.9%
Residential	59,742.0	58,051.3	-6.5%	48,382.5	37,039.1	30.6%
Nonresidential	42,175.0	17,438.9	-16.6%	37,250.2	30,188.5	23.4%
Additions, Alterations, and Repairs	15,899.0	17,287.1	12.3%	19,612.3	14,393.8	36.3%
New Dwelling Units (no.)	429	504	16.8%	586	266	26.2%
Employment						
Civilian Labor Force (thous.)	900.2	899.0	-0.6%	900.2	780.5	4.7%
Total Employed Persons	773.1	776.7	0.7%	764.5	739.8	3.6%
Unemployed Persons	33.1	30.7	-1.3%	35.2	36.3	-1.2%
Percent Total Labor Force	3.9	3.5	-2.6%	3.5	3.7	-4.8%
Employees on Nonagricultural Payrolls (thous. of pers.)	734.1	744.7	2.3%	720.1	688.4	4.7%
Manufacturing	105.2	109.1	5.7%	105.7	102.9	2.8%
Mining	8.6	8.7	1.2%	8.6	8.1	6.6%
Contract Construction	27.4	29.4	7.3%	27.0	25.8	4.5%
Transportation, Communications, and Utilities	42.0	43.2	2.9%	42.7	40.7	4.8%
Wholesale Trade	38.9	39.6	0.8%	39.0	38.4	1.4%
Retail Trade	136.1	141.7	4.1%	135.1	127.1	6.3%
Finance, Insurance, and Real Estate	33.6	34.4	2.3%	34.1	33.3	2.5%
Services 3	172.9	186.1	8.2%	178.1	166.1	7.2%
Federal Government	39.8	37.7	-4.1%	39.8	40.0	-0.6%
State Government 4	42.1	42.9	1.9%	41.7	40.0	4.3%
Local Government 4	68.6	71.9	4.8%	67.6	66.0	2.5%
Average Weekly Hours						
Manufacturing	39.9	39.3	-1.5%	39.9	40.0	-0.3%
Mining	46.2	45.8	-13.4%	43.6	40.3	8.3%
Wholesale Trade	36.4	37.3	2.5%	37.4	37.6	-0.6%
Retail Trade	27.2	26.5	-2.6%	26.7	27.3	-2.3%
Amount of Unemployment Compensation (thous. of dol.)	3,425.0	3,983.8	16.3%	4,951.2	5,057.0	-2.1%
Finance						
Savings, Savings and Loan Associations (mil. of dol.)	2,133.5	1,165.9	-45.4%	1,703.9	2,211.7	-23.0%
Tax Collections by the State of Utah (thous. of dol.)						
Total Tax Collections	79,822.2	NA	NA	NA	157,661.9	NA
Sales and Use Tax	1,287.1	NA	NA	NA	56,811.2	NA
Motor Fuel Tax	11,114.3	NA	NA	NA	11,697.6	NA
Individual Income Tax	42,163.1	NA	NA	NA	51,704.0	NA
Corporation Franchise Tax	560.1	NA	NA	NA	6,592.4	NA
Production						
Crude Oil to Refineries (thous. of bbls.)	3,457.9	NA	NA	NA	3,969.3	NA
Crude Oil (thous. of bbls.)	2,191.5	2,246.3	2.5%	2,306.1	2,366.2	-2.5%
Natural Gas (mil. of cu. ft.)	22,845.0	27,333.4	19.6%	26,421.7	22,947.2	15.1%
Coal (thous. short tons)	1,875.0	1,995.0	6.4%	1,951.5	1,664.4	17.2%
Tourism/Travel						
Air Passengers (total no. on and off)(S.L. Int'l Airport)	907,377	854,304	-5.8%	997,550	980,991	1.7%
Highway Traffic Count Across State Lines	41,914	44,930	7.2%	43,784	38,116	14.9%
Transient Room Tax (thous. of dol.)	519.9	NA	NA	NA	556.0	NA
Visits, State, Nat'l. Parks, Monuments (thous.)	449.1	464.3	3.4%	1,112.9	1,109.9	0.3%
Utilities						
Telephone Lines in Service (Mt. Bell)(Residential)	507,397	526,238	3.7%	515,616	499,384	3.3%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	186,938	198,788	6.3%	193,998	185,595	4.5%
Electric Customers (Residential)	485,653	NA	NA	NA	483,629	NA
Electric Customers (Commercial)	48,423	NA	NA	NA	48,036	NA
Natural Gas Customers (Residential & Commercial)	477,879	490,598	2.7%	485,607	472,026	2.9%
Natural Gas Customers (Industrial)	567	576	1.6%	572	564	1.4%

Utah Business Statistics

UTAH DATA	Nov. 1989	Nov. 1988	% Change from Year Ago	12-Month Average This Year	12-Month Average Last Year	12-Month Average % Change
Davis County						
Non-Ag. Employment (thous.)	57.8r	60.8	5.2%	58.8	56.4	4.2%
Unemployment Rate	4.3r	4.5	4.7%	4.3	4.3	-0.2%
Auth. Permit Construction (thous. of dol.)	7,457.5	6,929.3	-7.1%	10,812.0	10,020.5	7.9%
New Dwelling Units (no.)	67	59	-11.9%	78	69	14.0%
Postal Receipts (thous. of dol.)	662.8	644.3	-2.8%	640.5	611.1	4.8%
Electric Customers (Residential)	49,357	50,414	2.1%	49,953	48,962	2.0%
Electric Customers (Commercial)	3,598	3,720	3.4%	3,688	3,610	2.2%
Natural Gas Customers (Residential)	52,073	53,389	2.5%	52,887	51,719	2.3%
Natural Gas Customers (Industrial)	55	56	1.8%	56	55	1.7%
Telephone Lines in Service (Mt. Bell)(Residential)	57,708	61,177	6.0%	60,080	56,824	5.7%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	12,296	13,102	6.6%	12,776	11,930	7.1%
Salt Lake County						
Non-Ag. Employment (thous.)	363.6r	378.7	4.2%	366.9	351.7	4.3%
Unemployment Rate	3.9r	3.7	-5.1%	4.0	4.2	-5.0%
Auth. Permit Construction (thous. of dol.)	28,438.7	21,942.6	-22.8%	48,838.0	33,865.6	44.2%
New Dwelling Units (no.)	139	145	4.3%	205	162	26.6%
Postal Receipts (thous. of dol.)	8,470.6	8,273.6	-2.3%	8,021.6	8,195.3	-2.1%
Electric Customers (Residential)	244,266	248,036	1.5%	246,429	242,995	1.4%
Electric Customers (Commercial)	20,869	21,231	1.7%	21,174	20,868	1.5%
Natural Gas Customers (Residential)	225,658	229,963	1.9%	228,374	224,500	1.7%
Natural Gas Customers (Industrial)	245	245	0.0%	245	242	1.4%
Telephone Lines in Service (Mt. Bell)(Residential)	238,364	247,574	3.9%	242,844	234,799	3.4%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	113,935	119,919	5.3%	117,637	112,747	4.3%
Utah County						
Non-Ag. Employment (thous.)	93.0r	99.4	6.9%	92.6	86.5	7.1%
Unemployment Rate	4.2r	4.7	11.9%	3.9	4.2	-7.0%
Auth. Permit Construction (thous. of dol.)	10,037.4	23,349.1	132.6%	16,874.4	12,788.1	32.0%
New Dwelling Units (no.)	55	121	120.0%	107	75	43.6%
Postal Receipts (thous. of dol.)	1,636.9	1,732.8	5.9%	1,698.1	1,421.6	19.4%
Electric Customers (Residential)	52,849	56,615	7.1%	53,869	53,133	1.4%
Electric Customers (Commercial)	6,397	7,504	17.3%	7,172	6,128	17.0%
Natural Gas Customers (Residential)	63,431	65,099	2.6%	64,448	63,020	2.3%
Natural Gas Customers (Industrial)	74	75	1.4%	74	74	0.3%
Telephone Lines in Service (Mt. Bell)(Residential)	67,202	68,622	2.1%	67,000	66,197	1.2%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	19,723	21,694	10.0%	20,791	20,870	-0.4%
Weber County						
Non-Ag. Employment (thous.)	64.7r	66.1	2.2%	66.6	63.9	4.3%
Unemployment Rate	5.5r	5.7	3.6%	5.5	5.4	2.0%
Auth. Permit Construction (thous. of dol.)	11,198.7	3,508.6	-68.7%	6,732.9	6,080.4	10.7%
New Dwelling Units (no.)	44	23	-47.7%	43	44	-1.7%
Postal Receipts (thous. of dol.)	702.7	816.8	16.2%	730.9	683.6	6.9%
Electric Customers (Residential)	54,421	55,145	1.3%	54,831	54,199	1.2%
Electric Customers (Commercial)	5,052	5,132	1.6%	5,100	5,015	1.7%
Natural Gas Customers (Residential)	50,737	51,588	1.7%	51,315	50,561	1.5%
Natural Gas Customers (Industrial)	84	81	-3.6%	82	84	-2.3%
Telephone Lines in Service (Mt. Bell)(Residential)	47,803	47,590	-0.4%	47,075	47,323	-0.5%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	12,424	13,370	7.6%	13,143	12,232	7.4%

1 Obtained from U.S. Bureau of the Census Construction Statistics Division.
2 Obtained from *Utah Construction Report*.
3 Includes services by nonprofit and religious organizations.
4 Includes public schools and college institutions.

NA Not Available
r Revised

Sources:

Personal Income	U.S. Department of Commerce, Bureau of Economic Analysis.
New Corporations	Utah Secretary of State.
New Car and Truck Sales	Utah State Tax Commission, Economic and Statistical Unit.
Agriculture	U.S. Department of Agriculture, Utah Agricultural Statistics Service, *Utah Agriculture*.
Construction Data	U.S. Bureau of the Census and Bureau of Economic and Business Research, *Utah Construction Report*.
Employment Data	Utah Department of Employment Security.
Savings Information	Utah Savings and Loan Institutions.
Tax Collections	Utah State Tax Commission.
Crude Oil Production	Utah Department of Oil, Gas, and Mining and Area Oil Refineries.
Natural Gas Production	Utah Department of Oil, Gas, and Mining.
Coal Production	U.S. Department of Energy.
Air Passengers	Salt Lake City International Airport, Statistics Division.
Highway Traffic Count	Utah Department of Transportation.
Visits to State and National Parks and Monuments	U.S. Forest Service, Utah State Parks and Recreation Department.
Utilities Data	Cooperating Utah Utility Companies.
Postal Receipts	Postmasters in Davis, Salt Lake, Utah, and Weber Counties.

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NATIONAL DATA	Nov. 1989	Nov. 1990	% Change from Year Ago	12-Month Average This Year	12-Month Average Last Year	12-Month Average % Change
U.S. Gross National Product (seasonally adjusted) (bil.) (qtly.)	5,289.3	5,518.9	4.3%	5,443.9	5,177.5	5.1%
Total Personal Income (seasonally adjusted) (bil. of dol.)	4,470.0	4,713.7	5.5%	4,624.8	4,359.8	6.1%
Industrial Production Indexes (seasonally adjusted) (1987=100)	108.1	107.8	-0.3%	109.2	108.0	1.2%
New Plant and Equipment Expenditures by Business (bil.) (qtly.)	519.6	532.8	2.5%	532.8	501.7	6.2%
Net Exports of Goods and Services (bil.) (qtly.)	-35.3	-55.9	58.4%	-36.3	-49.0	-25.9%
Exports of Goods and Services (bil.) (qtly.)	642.8	687.7	7.0%	666.6	621.3	7.3%
Imports of Goods and Services (bil.) (qtly.)	678.1	743.7	9.7%	703.0	670.3	4.9%
Index of Leading Indicators (1982=100)	144.6	140.0	-3.2%	141.4	141.9	-0.3%
Price Indexes						
Consumer Price Indexes (not seasonally adjusted) (1982-84=100)						
CPI-U (All Urban Consumers) All Items	125.9	133.8	6.3%	130.0	123.5	5.3%
CPI-U (All Urban Consumers) Food & Beverages	126.7	133.7	5.5%	131.5	124.3	5.8%
CPI-U (All Urban Consumers) Housing	124.5	130.4	4.7%	128.1	122.6	4.4%
CPI-U (All Urban Consumers) Transportation	115.0	126.9	10.3%	119.5	113.7	5.1%
CPI-U (All Urban Consumers) Medical Care	153.9	168.4	9.4%	161.6	148.2	9.0%
CPI-U (All Urban Consumers) Energy	93.2	110.9	19.0%	100.7	93.9	7.1%
Producer Price Index (not seasonally adjusted) (1982=100)						
Producer Price Index, All Finished Goods	114.8	122.9	7.1%	118.5	113.1	4.9%
GNP Price Deflator (1982=100) (qtly.)	128.0	133.1	4.0%	131.0	125.9	4.1%
Civilian Employment (seasonally adjusted)						
Total Civilian Labor Force (mil.)	124.5	124.7	0.2%	124.8	123.7	0.9%
Total Civilian Employment (mil.)	117.9	117.4	-0.4%	118.0	117.2	0.7%
Unemployment Rate	5.3	5.9	11.3%	5.5	5.3	3.8%
Construction						
Total Construction (mil. of dol.)	20,329.0	17,200.0	-15.4%	19,549.4	22,494.0	-13.1%
Residential	9,278.0	7,008.0	-24.5%	8,913.1	10,333.4	-13.7%
Nonresidential	7,508.0	6,100.0	-18.8%	6,806.0	8,078.7	-15.8%
Non-Building	3,543.0	4,091.0	15.5%	3,830.2	4,081.9	-6.2%
New Dwelling Units (no.)	99,203	73,433	-26.0%	96,211	116,806	-17.6%
Interest Rates						
Federal Funds Rate	8.55	7.81	-8.7%	8.19	9.24	-11.3%
Short Term (3 month Treasury bill rate)	7.65	7.07	-7.6%	7.58	8.15	-7.0%
Long Term (30-year Treasury bond yields)	8.03	8.60	7.1%	8.71	8.68	0.3%
Prime Rates Charged by Banks on Short-term Business Loans (avg.)	10.50	10.00	-4.8%	10.05	10.87	-7.6%
Mortgage Rates (new homes)	9.78	9.61	-1.7%	9.70	9.70	0.0%

Sources: *Survey of Current Business*, U.S. Department of Commerce: U.S. Gross National Product, Total Personal Income, Industrial Production Indexes, New Plant and Equipment Expenditures by Business, Export/Import Data, Index of Leading Indicators, GNP Price Deflator, National Employment Data, Interest Rates

F.W. Dodge Report, McGraw-Hill: National Construction Data

Monthly Labor Review, U.S. Department of Labor, Bureau of Labor Statistics: Consumer Price Indexes, Producer Price Index

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MANUFACTURING IN THE WEST SINCE WORLD WAR II[1]

James A. Wood, Research Analyst

Prior to World War II, the West's manufacturing beginnings were found in the economic booms that settled and exploited the region: mining booms, cattle booms, farming booms and lumber booms. Although the West was isolated from major markets and nearly empty of people, its valuable natural resources brought manufacturing activity to the region as transportation costs forced manufacturers to locate near their resource. Thus, the early character of manufacturing in the western states came to be determined by the distribution of natural resources and transportation costs; but by 1990, the character of manufacturing had changed. Although mining and agriculture continued to exert an influence, World War II had become the most powerful defining force of manufacturing in the West.

Following World War II the United States entered a period of economic prosperity. Each western state shared in the national economic growth, but unevenly. In no other sector was the imbalance in economic development more conspicuous than in manufacturing. The objective of this paper is to present a comparative treatment of the postwar performance of manufacturing in the western states to better understand the process of western economic development.

The Changing Presence of Manufacturing in the West

Following World War II, the West's manufacturing sector lagged far behind the national average. In 1946, manufacturing earnings in the West represented only 8.3 percent of total earnings compared to 26.6 percent nationally. Colorado was the only western state

[1] The geographic boundaries used herein are designated by the U.S. Bureau of the Census for the Mountain States: Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah and Wyoming. The structure, character and economic growth of this so-called region, however, demonstrate significant differences, particularly regarding Montana and Wyoming. The economies of Montana and Wyoming, in many respects, are more similar to North Dakota, South Dakota and Nebraska than the western states; therefore, they are at times given a minor status in the state-by-state comparisons.

where manufacturing earnings as a percent of total earnings exceeded 10 percent. By western states' standards, Utah's manufacturing sector had a respectable 9.3 percent of total earnings (Table 1).

Table 1

Manufacturing Earnings as Percent of Total Earnings

State	1946	1950	1960	1970	1980	1989
Arizona	5.97%	7.00%	13.57%	16.15%	17.15%	15.52%
Colorado	11.34	13.71	16.26	15.63	15.61	15.04
Idaho	8.70	12.25	15.94	15.78	17.30	17.54
Montana	7.32	8.27	10.99	10.46	9.94	8.39
Nevada	4.61	5.54	5.03	4.01	4.98	4.42
New Mexico	5.92	5.91	6.43	5.86	6.74	7.84
Utah	9.27	13.26	18.66	15.59	17.12	16.88
Wyoming	5.65	6.13	7.84	6.11	4.56	4.97
U.S.	26.64	28.76	29.44	26.64	24.61	19.68

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

World War II served as the catalyst for the expansion of manufacturing in the West. Wartime expenditures by the federal government produced an enormous capital investment in science, technology, and manufacturing facilities; investments which would quicken the postwar economic diversification of the region. Perhaps the most dramatic and symbolic war-related expansion was the extension of the steel industry to the West with the federal government's decision to built the Geneva Steel Works near Provo, Utah. The steel industry epitomized the dominance of eastern manufacturing and any expansion to the West was vigorously opposed by eastern industrialists. Despite the opposition of these industrialists, the war was transforming the nation's economy and closing the manufacturing gap between the East and the West.

No other event in this century approaches the impact that World War II had on Utah's manufacturing sector. The federal government's $200 million investment in the Geneva Steel Works would significantly alter the composition of Utah's manufacturing sector. Without federal funds, Utah's steel industry probably would have remained a modest component of the state's manufacturing sector. Private capital markets simply would not have risked a $200 million investment in a steel plant in Provo, Utah. The sparsely populated western states were too isolated and distant from major west coast markets to justify huge capital investments in large-scale manufacturing operations. At the time an investment of more than $20 million in any one year in new plant and equipment in Utah was considered extraordinary. In 1947, new plant and equipment expenditures in the state were only $17 million, and not until 1974 did investment in new plant and equipment exceed $100 million.[2]

The federal government had stepped up as wartime financier to reshape Utah's manufacturing sector. Prior to World War II, manufacturing in Utah had been largely characterized by the processing of farm products and nonferrous metals. In 1940, 44 percent of all manufacturing employees in Utah were involved in activities such as refining sugar from sugar beets, canning fruits and vegetables, milling grain and producing dairy products, i.e., the Food and Kindred Products sector. But with the opening of the Geneva Steel Works, Utah's manufacturing sector began the shift from principally residentiary activity to export-based activity. "Blast Furnace and Steel Mill" employment would now join the "Smelting and Refining of Nonferrous Metals" by Kennecott Copper employees as important export-based manufacturing activities.

During the immediate postwar period and the decade of the 1950's, manufacturing activity made huge gains in the West. Leading the rise was Arizona, where manufacturing earnings increased an astonishing 850 percent between 1946 and 1960. Utah ranked second among the eight western states with a gain of 510 percent for the period. A more detailed look at Utah shows that the manufacturing sector was the stellar performer among all employment sectors in the immediate postwar period.

Increase in Earnings in Utah 1946-1960	
Manufacturing	510%
Mining	306%
Construction	350%
Transportation and Public Utilities	203%
Trade	218%
Finance, Insurance, Real Estate	418%
Services	380%
Government	228%

Source: Bureau of Economic Analysis, State Personal Income, 1929-1987, July 1989.

[2] U.S. Department of Commerce, Bureau of the Census, Census of Manufactures, Utah.

Although gains in manufacturing earnings came to all western states, the relative importance of manufacturing in Montana, Nevada, New Mexico and Wyoming remained, for all practical purposes, unchanged. Nevada is a particularly interesting case. The average annual real growth rate in Nevada's manufacturing earnings is higher than every other western state except Arizona (Table 2). Despite this rapid growth, the relative position of manufacturing remains unchanged because other non-manfacturing sectors in Nevada have grown so rapidly (data appear in Table 1).

Table 2
Manufacturing Earnings by State
(Constant Dollars - 1989)

State	Manuf. Earnings 1946 (millions)	Manuf. Earnings 1989 (millions)	Average Annual Growth Rate
Arizona	$213.5	$6,087	8.1
Colorado	829.6	6,526	4.9
Utah	335.5	2,854	5.1
Idaho	286.7	1,782	4.3
New Mexico	158.6	1,108	4.6
Nevada	61.0	700	5.8
Montana	256.2	619	2.1
Wyoming	103.7	242	2.0
U.S.	$240,645	$625,476	2.2

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

In those states where the growth in manufacturing earnings have exceeded that of the non-manufacturing sectors, the relative importance of manufacturing has increased. The most meaningful achievements have been in the three states--Arizona, Idaho and Utah--where the percent share of manufacturing earnings in each state nearly doubled during the 1946-to-1960 period. For these three states the real growth rates in manufacturing earnings since World War II have been 8.1 percent, 4.3 percent and 5.1 percent respectively.

Colorado with $6.5 billion in manufacturing earnings in 1989 has never relinquished its number one ranking as the top manufacturing state in the West notwithstanding the rapid growth of Arizona. The expansion of Arizona's manufacturing sector has led to large gains in the state's share of manufacturing in the West. Immediately following the war, Arizona's manufacturing sector accounted for only 9.5 percent of total manufacturing earnings in the western states, and was ranked behind Colorado, Utah, Idaho and Montana. Today, with nearly 31 percent of the total manufacturing earnings in the region, Arizona's position is second only to Colorado. These two states dominate total manufacturing earnings in the region. Over the postwar period, Utah has managed to hold on to its relative share of manufacturing in the region; whereas Montana's position has seriously eroded, declining from 11.4 percent to 3.1 percent (Table 3).

Table 3
Percent Distribution of Manufacturing Earnings Within the Region

State	Percent Distribution of Manufacturing Earnings	
	1946	1989
Arizona	9.5	30.6
Colorado	37.0	32.8
Idaho	12.8	9.0
Montana	11.4	3.1
New Mexico	7.1	5.6
Nevada	2.7	3.5
Utah	15.0	14.3
Wyoming	4.6	1.2

Source: Bureau of Economic Analysis, State Personal Income: 1929-87 and Survey of Current Business, August 1990.

From a review of the data it seems reasonable to conclude that among the eight states of the region, four of them--Arizona, Colorado, Utah and Idaho--each have a notable presence of manufacturing activity; whereas in the remaining four states of Montana, Nevada, New Mexico and Wyoming, manufacturing plays a secondary or minor economic role. The former set of states now approaches the national average in terms of the relative share of manufacturing earnings. In 1989, in the U.S. economy manufacturing earnings represented 19.7 percent of total earnings; only slightly greater than the western states of Arizona, Colorado, Idaho and Utah, where manufacturing accounted for 15 to 17 percent of total earnings (shown in Table 1).

Manufacturing in the West, although still only a fraction of total manufacturing activity in the United States, has an improved presence. In 1989, manufacturing earnings in the eight western states accounted for 3.2 percent of the U.S. total, a significant increase over the 0.9 percent share for the region in 1946.

Manufacturing Employment and Wages in the West

In a broad sense, the western states move together as a group, with advances and declines in manufacturing employment. Wyoming and Montana, however, remain on the periphery, too remote geographically and too small economically to fully participate. But for the remaining six states they do seem to act in concert, i.e., move the same direction with increases and decreases in manufacturing employment. In 24 of the 44 years since World War II, manufacturing employment in all six states has moved in the same direction. The longest period of complete unanimity was from 1971 to 1979. The widespread prosperity was interrupted by the single worst year for postwar manufacturing in the West--1975. The recession of that year rippled through every western state, reducing manufacturing employment in the region by 29,200 jobs, a 6.5 percent reduction in manufacturing employment.

Manufacturing employment trends for each decade show that the region performed better during the 1950's and the 1970's than in the 1960's and 1980's. Of some note is the extent of the slowdown in manufacturing job growth in the 1980's. It is estimated there will be 100,000 fewer new manufacturing jobs in the West in the 1980's than there were in the 1970's. A sense of the ebb and flow of manufacturing employment within the region is illustrated by the data in Table 4.

The 1980's have been a period of diverse performance among western states. Arizona and Colorado have suffered considerable weakness in their manufacturing sectors over the past five years. The extent of this weakness is confirmed by the fact that Utah, despite major layoffs in Primary Metals at Geneva Steel and Kennecott Copper, led the western states in manufacturing job growth for the 1985-1990 period, as follows:

State Increases in Manufacturing Jobs, 1985-1990

Utah	12,300	Nevada	4,300
Idaho	9,700	Colorado	3,700
Arizona	7,600	Montana	1,500
New Mexico	5,600	Wyoming	1,000

Source: U.S. Department of Labor, Employment and Earnings.

Table 4
Change in Manufacturing Employment by Decade
(in thousands)

State	1950-1960	1960-1970	1970-1980	1980-1990
Arizona	32.3	41.9	63.2	34.8
Colorado	27.0	30.2	59.6	15.5
Idaho	6.4	11.5	13.2	10.9
Montana	2.4	3.6	.3	-1.0
Nevada	1.9	3.2	10.6	7.0
New Mexico	6.8	4.3	13	8.5
Utah	17.8	8.5	31.7	18.6
Wyoming	2.0	-1.0	2.2	-.6
Empoyment Growth	96.6	102.2	193.8	93.7
Percent Change	57%	38.2%	52.4%	16.6%

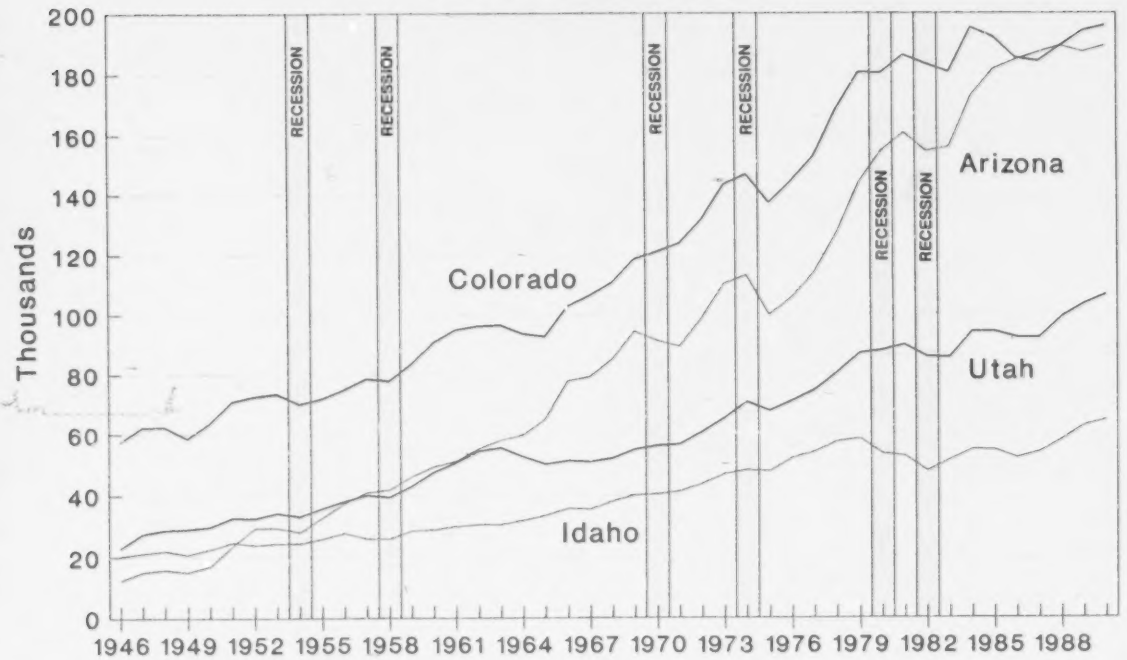
Source: U.S. Department of Labor, Bureau of Labor Statistics.

The performance of manufacturing employment in times of recession and expansion is shown in Charts 1 and 2. Among the four states included in Chart 1, the performance of Arizona's manufacturing sector has been the most spectacular. Beginning in 1946 with only 12,000 manufacturing jobs, about half of the number of manufacturing jobs in Utah in 1946, Arizona's upward trend line has been interrupted only by recessions; whereas in Colorado and Utah, manufacturing employment has declined substantially on two non-recessionary occasions, the 1963-65 period and the mid-1980's.

The trend line for manufacturing employment in Utah depicts a loss of jobs in four of the six postwar recessions; the worst recession was in 1982 when manufacturing employment declined by 4.0 percent -- 3,600 jobs. During the 1970 and 1979 recessions, manufacturing employment did not decline in Utah, but employment growth slowed to about 1 percent.

Chart 1

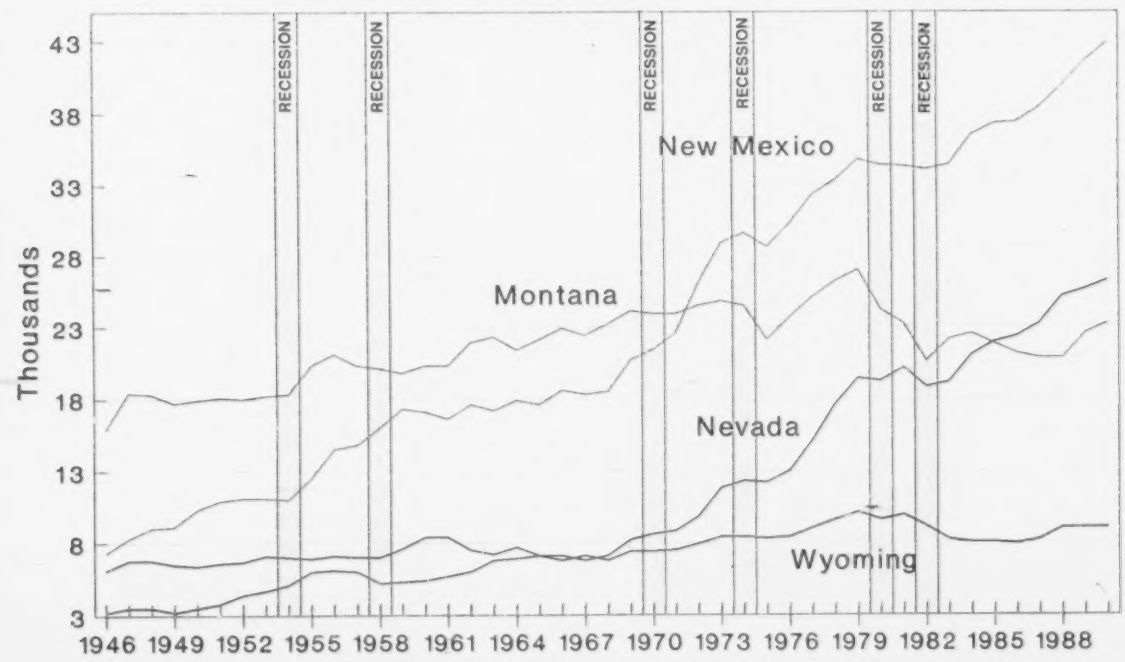
Manufacturing Employment in Four Western States
1946 to 1990



Source: Bureau of Labor Statistics

Chart 2

Manufacturing Employment in Four Western States
1946 to 1990



Source: Bureau of Labor Statistics

The 1963-1965 downturn in manufacturing employment in Utah originated with reductions in aerospace spending by the U.S. Department of Defense. These cutbacks precipitated the largest postwar employment decline in Utah's manufacturing sector. In two years, manufacturing employment dropped by over 10 percent, as Utah's aerospace industry lost 6,000 jobs. At Thiokol Corporation in Box Elder County, employment declined from 6,000 to 3,000 employees, following the decision to discontinue development of the Mobile Mid-Range Ballistic Missile.[3] Aerospace employment was also declining at Hercules Powder Company's Bacchus Works in Salt Lake County. At the end of 1962, Hercules had employed 6,000 workers, reflecting a rapid employment build-up for research and development of the Minuteman and Polaris missile systems.[4] By 1964, these missile systems had become operational, and employment layoffs followed, which reduced the work force at Hercules from 6,000 to 4,000.[5]

The 1986 decline in manufacturing employment in Utah reflects a loss of employment in the Primary Metals subsector due to the closure of Geneva Works of USX Corporation in Provo, Utah, and layoffs at milling and smelting operations of the Utah Copper Division of Kennecott Copper.[6] The employment volatility of Primary Metals has increased the vulnerability of Utah's manufacturing sector to recessions, but each western state has its own special vulnerability. Idaho lost nearly 20 percent of its manufacturing jobs between 1979 and 1983 in a four-year collapse of the lumber and wood product markets. Arizona's manufacturing sector was badly hurt in 1974 when a downturn in semiconductors led to layoffs of 8,000 employees.

Manufacturing Wages

The dominance of Arizona and Colorado in western manufacturing is illustrated in Chart 3. Together these two states account for nearly 60 percent of the manufacturing employment in the West, and they also enjoy the highest manufacturing wage rates. Colorado had the highest annual average manufacturing wage rate in 1989--$29,443, and New Mexico had the lowest annual manufacturing wage rate--$22,001, Table 5. Utah ranks third. The two highest wage manufacturing subsectors in Utah are Primary Metals and Transportation Equipment.

Athough the ranking by wage rate for these five states has not changed over the past 20 years, the wage gains in Colorado and Arizona have outdistanced those in the three remaining states. In 1969, Utah's annual average manufacturing wage rate was 89 percent of Colorado's; but by 1989 it had dropped to 82 percent. Over the same period, Idaho's manufacturing wage rate has slipped from 84 percent to 80 percent of Colorado; New Mexico dropped from 79 percent to 74 percent.

Also disturbing has been the decline in real wages. In real terms, manufacturing wages in Utah have declined 3.9 percent in the past 20 years. Utah is not unique in this respect--other western states have had a similar experience. In part, the decline in real wages can be explained by the changing composition of the manufacturing sector, especially in Utah. The loss of jobs in Utah's high wage Primary Metals industry has certainly contributed to a deteriorating real wage rate.

The Structure of Manufacturing in the West

The essential characteristic of postwar manufacturing in the West has been its diminishing dependence on natural resources based products, e.g., lumber, processed minerals and agricultural goods. Postwar growth has been centered in the production of intermediate and finished manufactured products such as semiconductors, computers, and aircraft parts.

The exceptions are the small manufacturing sectors of Wyoming and Montana that are still dominated by industries that process natural resources. Also, Nevada is a special case. Here manufacturing affects a residentiary nature (produced for local consumption) but without the traditional ties to agriculture. Tourism determines the direction of manufacturing development in Nevada, as evidenced by the leading manufacturing activities: printing and publishing, the stone, clay and glass products and the miscellaneous manufacturing industries. For the other states, some important remnants of the prewar pattern remain: meat packing in Colorado, lumber and processed vegetables (potatoes) in Idaho; and primary metals, fluid milk and cheese products in Utah.

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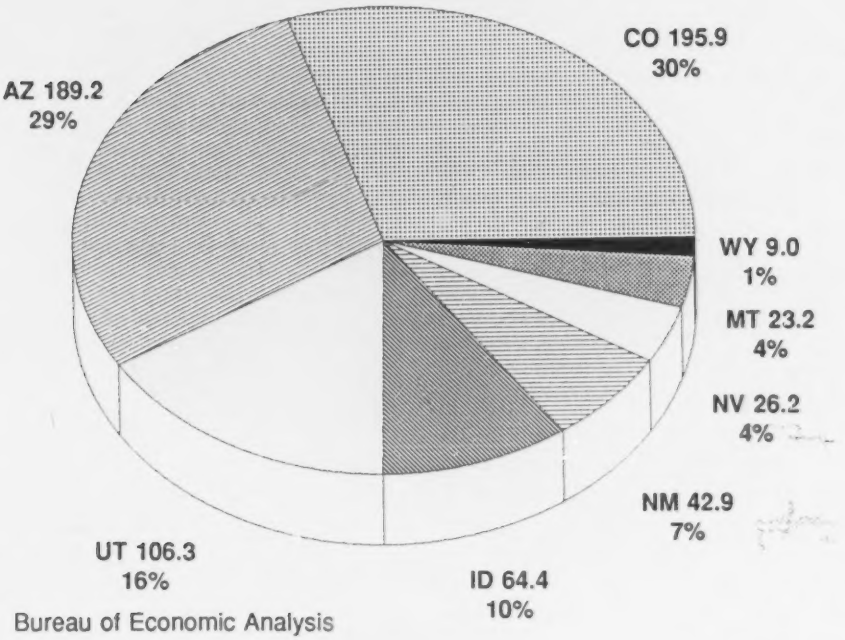
[3] "No Further Layoffs Due at Thiokol" Ogden Standard Examiner, September 20, 1964.

[4] "Hercules' Future Appears Bright" Deseret News, January 15, 1963.

[5] "No Drastic Job Cuts Seen for Bacchus", Deseret News, September 26, 1964.

[6] Primary Metals includes basic steel products, milling and smelting nonferrous metals (e.g., copper) and foundry work.

Chart 3
Percent Distribution of Manufacturing Employment, Mountain States
(Thousands of Employees)
1990



Bureau of Economic Analysis

Table 5
Average Annual Wage Rates by Manufacturing Sector
(1989)

Sector/State	Arizona	Colorado	Idaho	New Mexico	Utah
Manufacturing	$28,266	$29,433	$23,653	$22,001	$24,072
Food & Kindred Products	20,675	25,876	20,031	16,672	18,169
Chemicals	24,435	36,572	35,602	21,353	26,717
Lumber	17,991	d	24,858	17,445	17,741
Primary Metals	27,588	26,908	23,601	28,815	33,403
Fabricated Metals	21,062	24,653	19,705	17,801	22,648
Machinery, except elec.	37,499	35,236	29,001	25,927	26,518
Electronic components	31,191	31,669	28,663	26,419	28,269
Transportation Equipment	36,756	d	15,057	32,845	33,276
Instruments	32,861	30,605	17,528	27,465	22,648

d Not shown to avoid disclosure.

Source: U.S. Department of Labor, Employment and Wages Annual Averages 1989, October, 1990.

Otherwise the manfacturing matrix of the West reflects the emergence of high wage, high technology-based industries: computer, electronics and aerospace; industries that in large part, were created by federal research and development expenditures during World War II, and have remained centered in the western United States. A great advantage for remaining in the West was the research infrastructure developed with such universities as Stanford, Berkeley, and the California Institute of Technology. Also many of the new companies, with their affluent, white-collar employees, preferred the non-union environment of western locations.

These new technology-based industries enjoyed much greater locational freedom because transportation costs were less significant in the production of their lightweight, high value products; hence they became known as "footloose" industries. These footloose industries "develop purely by chance in some locations."[7] In 1950 when Motorola chose Phoenix as the location for a semiconductor plant, that city had no commanding comparative advantage over Denver, Salt Lake or Albuquerque. The same is true of Hewlett Packard's decision in 1963 to locate in Colorado or Sperry Rand's (now Unisys) decision in 1956 to locate in Utah. But the choice of the state and the region by these types of companies has come to dominate the structure of manufacturing in most western states, as well as influence the development of the residentiary industries such as "specialized banking, brokerage, wholesaling and other business services..."[8]

Computer, Electronics and Aerospace Industries in the West

Although the five western states of Arizona, Colorado, Idaho, New Mexico and Utah have only 3.0 percent of the total U.S. manufacturing employment, they have a much greater share of manufacturing employment in the computer, electronics and aerospace industries. The percent share of employees in 1989 in each industry for the five western states is given below:

Computer and Office Equipment (SIC 357) 8.2%
Electronic Components (SIC 367) 9.7%
Aircraft and Aircraft Parts (SIC 372) 3.5%[a]
Guided Missiles (SIC 376) 16.9%

[a] Arizona has 75 percent of the aircraft employment in the five-state area.

There are 114 manufacturing industries at the three-digit SIC level and the four industries listed above comprise some of the largest and fastest growing. The computer industry (SIC 357) and the electronics industry (SIC 367) rank third and fourth in total employment growth since 1969. The guided missile

[7] North, Douglass C., "Location Theory and Regional Economic Growth," Regional Economics, edited by David L. McKee, Robert D. Dean and William Leahy, Free Press, 1970, pg. 42.

[8] North, pages 39-40.

Table 6
Manufacturing Employment in Selected Sectors
(1989)

Sector	Arizona	Colorado	Idaho	New Mexico	Utah	United States
Computers	8,368	21,182	4,124	835	2,756	454,963
Electronics	34,445	7,922	4,619	3,942	8,686	614,036
Aircraft Parts	18,951	2,127	89	1,929	1,872	708,686
Guided Missiles	6,500	13,247	0	1,056	12,133	195,009
Total	68,264	44,478	8,832	7,762	25,447	1,972,694
Percent of State's Total Manufacturing	36.3%	23.1%	14.5%	18.5%	24.9%	10.2%

Source: Department of Employment Security Offices for each state.

industry ranks 11th with an increase of more than 66,000 employees in the last 20 years.

Unlike the early manufacturing history of the United States, when the West was largely excluded from events, the postwar period has been a time of manufacturing expansion for the West, and the region has come to specialize in some of the fastest growing manufacturing sectors. Employment data by state for the computer, electronics and aerospace industries are given in Table 6.

The Decline of Food and Kindred Products and Primary Metals

The postwar paradigm for most western states has been the structural shift to manufacturing activities producing technology-based export commodities. The gains in Electronics, Computers and Aerospace have come at the expense, so to speak, of the Food and Kindred Products and Primary Metals subsectors.

Food and Kindred Products ranked either first or second in terms of manufacturing earnings in every western state in 1960. But by 1989 the relative importance of this subsector had declined in each state; most precipitously in Arizona where the Food and Kindred Products share declined from 13 percent of earnings in 1960 to only 3.9 percent in 1989. In Utah, Food and Kindred Products declined from 16.7 percent of manufactured earnings in 1960 to 8.4 percent in 1989. The shrinking share of earnings for Food and Kindred Products in Utah was halted in the mid-80's when All American Gourmet and Stouffer Foods Corporation established frozen food operations in the state.

The Primary Metals subsector (blast furnaces, steel products, foundries, and nonferrous rolling and drawing) in Arizona, Colorado and Utah has also undergone significant declines in its relative position. Since 1960, the share of manufacturing earnings generated by the Primary Metals subsector in Arizona has dropped from 8.3 percent to 4.3 percent. The most dramatic declines, however, have occurred in Colorado and Utah. In 1960, Primary Metals accounted for 11.4 percent of manufacturing earnings in Colorado and a hefty 24.2 percent in Utah, where it was the largest manufacturing subsector. By 1989, Primary Metals earnings had dropped to only 1.6 percent in Colorado and 7.7 percent in Utah. Currently, the Colorado Fuel and Iron Company of Pueblo is fighting for survival; but in its heyday of producing steel rails, the company had employed as many as 15,000 workers and had been part of the Rockefeller empire. In Utah, Geneva Steel was sold in 1987 by USX Corporation for $44.1 million to Basic Manufacturing and Technologies of Utah. Geneva Steel had been closed for over a year, due initially to a labor dispute; however, once the dispute was settled, USX decided against reopening the facility. Today Geneva Steel employs about 2,700 workers, approximately one-third the number employed in 1960.

The shift in the structure of Utah's manufacturing sector from primary metals and food processing to aerospace and electronics is shown in Table 7. In Table 8, the major manufacturing subsectors are ranked for each state. There data show the concentration of manufacturing activity for several states in electronics, machinery (computers) and transportation (aerospace).

Table 7

The Structure of Manufacturing in Utah

	Percent of Manufacturing Earnings			
Sector	1989	1980	1970	1960
Durable Goods	74.3	75.0	69.0	68.0
Trans. Equipment	21.3	12.4	12.4	14.6
Electronic Components	13.2	7.6	5.1	1.8
Machinery	7.8*	14.5	11.1	4.6
Primary Metals	7.7	15.7	20.8	24.2
Fabricated Metals	6.3	7.9	5.8	5.3
Stone, Clay and Glass	3.4	5.0	4.9	5.4
Nondurable Goods	25.7	25.0	31.0	32.0
Food and Kindred Products	8.4	8.1	13.5	16.7
Printing and Publishing	6.3	5.3	5.8	4.6
Apparel	2.3	3.3	4.4	2.1
Chemicals	3.7	3.9	2.9	2.5
Other Manufacturing	19.6	16.3	13.3	18.2
Total Manufacturing Earnings	100	100	100	100

* This sector was adversely effected by the recent reclassification of Unisys which resulted in a shift of 3,000 workers from the Machinery to Electronic Components Industry.

Source: Bureau of Economic Analysis, State Personal Income: 1929-87 and Survey of Current Business August 1990.

Table 8
Percent Distribution of Manufacturing Earnings
(1989)

State/Sectors	Percent	State/Sectors	Percent
Arizona	24.4	Nevada	
Electronic Components	18.7	Printing and Publishing	15.4
Transportation Equipment	14.0	Miscellaneous Manufacturing Products	10.6
Industrial Machinery	7.8	Stone, Clay and Glass Products	10.1
Instruments	7.0	Industrial Machinery	8.7
Printing and Publishing	28.1	Instruments	8.3
Other Manufacturing		Other Manufacturing	46.9
Colorado		New Mexico	
Industrial Machinery	20.4	Electronic Components	16.2
Electronic Components	12.0	Instruments	11.7
Transportation Equipment	11.9	Transportation Equipment	10.6
Food and Kindred Products	11.5	Industrial Machinery	8.1
Printing and Publishing	9.4	Printing and Publishing	7.2
Other Manufacturing	34.8	Other Manufacturing	46.2
Idaho		Utah	
Lumber	30.9	Transportation Equipment	21.3
Food and Kindred Products	22.0	Electronic Components	13.2
Industrial Machinery	11.5	Food and Kindred Products	8.4
Electronic Components	9.0	Industrial Machinery	7.8
Chemicals	8.0	Primary Metals	7.7
Other Manufacturing	18.6	Other Manufacturing	41.6
Montana		Wyoming	
Lumber	39.6	Petroleum and Coal Products	20.7
Food and Kindred Products	9.7	Printing and Publishing	13.6
Primary Metals	9.7	Chemicals	9.5
Printing and Publishing	7.9	Food and Kindred Products	9.5
Petroleum and Coal Products	6.5	Industrial Machinery	7.0
Other Manufacturing	26.6	Other Manufacturing	39.7

Source: Bureau of Economic Analysis, Survey of Current Business, August 1990, Table 3.

Major Manufacturers in the West

The location of large manufacturers in the West have helped shape the structure of the industry as well as determine the distinguishing characteristics of manufacturing in western states: Arizona--semi-conductors and aircraft and aircraft engine production; Colorado--meat packing, computers and computer memory systems; Idaho--lumber, computers and semi-conductors; New Mexico--aircraft avionics and semiconductors; Utah--space and missile propulsion units, primary metals, and semiconductors. Details on major companies, their products and date of location in the respective states appear in Table 9. This information was obtained from telephone interviews with public information officers from each company.

Summary

• Natural resources and transportation costs determined the early history of manufacturing in the western states. Prior to World War II, manufacturing in the West was characterized by the processing of products at smelters, slaughterhouses, mills, canneries and creameries.

• In 1946, manufacturing in the West accounted for only 8.3 pereent of the total earnings in the region, compared to 26.6 percent for the manufacturing sector nationally. By 1989 the share of manfac-turing earnings of total earnings for the eight western states had grown to 13.1 percent, compared to 19.7 percent nationally.

• Arizona's manufacturing sector has outperformed all other western states. Arizona's share of manufacturing earnings in the region has grown from 9.5 percent in 1946 to 30.6 percent in 1989.

• Within the region, manufacturing has a notable presence in four states: Arizona, Colorado, Idaho and Utah. Manufacturing represents 15 to 17 percent of earnings in each of these states. In the four remaining states -- Montana, Nevada, New Mexico and Wyoming -- manufacturing earnings range between 4 to 8 percent of total earnings.

• The 1950's and 1970's were periods of impressive manufacturing growth in the West with employment increasing 57 percent and 52 percent respectively. During the decade of the 1970's, manufacturing in the region grew by more than 193,000 jobs compared to only 94,000 jobs in the decade of the 1980's.

• The six postwar recessions have interrupted and slowed manufacturing growth in the West. For Utah, two non-recessionary periods have also impeded growth: 1963-1965 -- aerospace cutbacks by Department of Defense caused a loss of 10 percent of the state's manufacturing employment; 1985-1987 -- problems in the Primary Metals industry caused a loss of 2,500 jobs as Geneva Steel shut down, and modernization at Kennecott Copper reduced their workforce at smelters and mills. Despite these layoffs in the Primary Metals industry, Utah's manfacturing sector achieved greater employment increases than any other western state during the 1985-1990 period, in large part due to growth in aerospace employment.

• No other event in this century had the impact that World War II had on manufacturing in the West. The war spawned new industries compatible with locations in the western states, industries that were less dependent on proximity to markets and resources as well as less sensitive to transportation costs. Three such industries, computers, electronics and aerospace, have been the nucleus for the region's gains in postwar manufacturing. In 1989 the West, which has only 3 percent of total U.S. manufacturing employment, had 8.2 percent of the employment in the computer industry, 9.7 percent of the employment in the electronic components industry and 16.9 percent of the employment in the guided missile industry.

Table 9

Products, Beginning Date and Employees for 1991

	1991 Employment	Year Located
Arizona		
Semiconductors and Microprocessors		
Motorola	21,000	Since 1950
Intel	2,700	1980
Aircraft		
McDonnell Douglas (Commercial and DOD Helicopters)	4,800	1982
Honeywell Sperry (Guidance systems for helicopters and business jets)	6,000	1956
Aircraft Engines and Parts		
Garrett Division of Allied Signal Aerospace (Gas turbine engines, secondary turbine engines, pneumatic systems)	12,000	1951
Colorado		
Meat Packing		
Monfort Meat Packing	6,000	Prewar
Computers		
Hewlett Packard (Work stations and peripherals)	7,000	1963
Digital Equipment Corp (Disk drives and controllers)	3,400	Approx. 1965
Cray Computer (Supercomputer)	276	1988
Computer Memory Storage Systems		
Storage Technology	4,300	1969
Electronics Components		
Litton (Mobile tracking stations for aircraft)	650	1978
Texas Instruments (Defense electronics systems work)	700	1979
Unisys	650	1984
Idaho		
Logging, Sawmills, Planing Mills and Paper Products		
Boise Cascade	1,900	1957
Computer Peripherals		
Hewlett Packard (Disk Drives and printers)	4,000	1963
Frozen and Dehyrated Fruits and Vegetables		
J.R. Simplot	5,200	1940's
Ore-Ida Frozen Food (Frozen french fries)	1,000	1960
New Mexico		
Semiconductors		
Signetics	1,000	1982
Intel	1,500	1980
Search and Navigation Equipment		
Honeywell (Aircraft avionics)	1,500	1981
Utah		
Space Propulsion Units		
Thiokol	7,000	1958
Hercules[a]	3,000	1958
Semiconductors		
National Semiconductor	1,200	1977
Signetics	1,200	1967
Electronic Components		
Unisys[b]	3,000	1956
Primary Metals		
Geneva Steel	2,700	1947
Kennecott Minerals Company[c]	850	Prewar

[a] Hercules Powder Company located in Utah in 1914. Hercules produced blasting powder for the copper and coal mines of Utah. In 1958 Hercules entered the aerospace business.

[b] Originally Sperry Rand Corporation.

[c] The employment figures reflect only those employees of Kennecott Minerals Company involved in milling and smelting of copper.

Definition of Manufacturing and Classification of Manufacturing Activity

Manufacturing is the "action or process of making articles or material by the application of physical labour or mechanical power"[9]. The Bureau of Labor Statistics has classified manufacturing activity according to industrial product. The first level of disaggregation is the two broad categories of Durable Goods and Nondurable Goods. The next level of disaggregation moves to the two-digit Standard Industrial Classifications (SIC) presented below. The two-digit classifications, however, only begin to detail the diversity of the manufacturing sector. Each two-digit classification is comprised of a multiplicity of industries further classified at the three- and four-digit level. Special mention must be made of four industries at the three-digit level that have played a crucial role in the development of manufacturing in the West: Computer and Office Equipment (SIC 357), Electronic Components and Accessories (SIC 367); Aircraft and Parts (SIC 372) and Guided Missiles, Space Vehicles and Parts (SIC 376). These industries have been identified in the list below:

[9] The Oxford English Dictionary, Second Edition, Volume IX, Clarendon Press - Oxford, 1989.

Durable Goods

SIC 24 Lumber & Wood Products
25 Furniture & Fixtures
32 Stone, Clay & Glass Products
33 Primary Metal Industries
34 Fabricated Metals Products
35 Industrial Machinery & Equipment
357 Computer & Office Equipment
36 Electronic & Other Electronic Equipment
367 Electronic Components and Accessories
37 Transportation Equipment
372 Aircraft and Parts
376 Guided Missiles, Space Vehicles and Parts
38 Instruments & Related Products
39 Misc. Manufacturing Industries

Nondurable Goods

SIC 20 Food & Kindred Products
22 Textile Mill Products
23 Apparel & Other Textile Products
26 Paper & Allied Products
27 Printing & Publishing
28 Chemicals & Allied Products
29 Petroleum & Coal Products
30 Rubber & Misc. Plastics Products
31 Leather & Leather Products

Utah Business Statistics

UTAH DATA	Dec. 1989	Dec. 1990	% Change from Year Ago	12-Month Average This Year	12-Month Average Last Year	12-Month Average % Change
Total Personal Income (seasonally adjusted) (mil. of dol.) (qtly.)	23,017	24,931	8.3%	24,263	22,353	8.5%
New Corporations (no.)	522	468	-10.3%	499	465	7.4%
New Car, Truck, and Motor Home Sales (no.)	4,177	3,915	-6.3%	5,102	5,058	0.9%
Agriculture						
Average Prices Recorded by Farmers (dol.)						
Beef Steers and Heifers (cwt) (thous.)	74.90	79.20	5.7%	76.64	72.46	5.8%
Lambs (cwt)	55.00	44.20	-19.6%	48.65	60.88	-20.1%
Milk Wholesale (cwt)	15.00	10.90	-27.3%	12.91	12.59	2.5%
Alfalfa Hay, Baled (per ton)	85.00	84.00	-1.2%	84.92	84.75	0.2%
Cattle Slaughtered (live weight) (thous. of lbs.)	44,789	43,471	-2.9%	47,014	47,990	-2.0%
Construction						
Total Construction (thous. of dol.) 1	90,293.0	53,401.7	-40.9%	82,746.7	79,934.9	3.5%
Residential	23,182.0	22,451.4	-3.2%	44,037.3	36,180.8	21.7%
Nonresidential	49,549.0	24,453.1	-50.6%	25,947.1	27,336.0	-5.1%
Additions, Alterations, and Conversions	17,562.0	6,497.2	-63.0%	12,752.3	16,418.1	-22.3%
Total Permit Construction (thous. of dol.) 2	83,128.5	65,965.3	-20.6%	103,814.3	84,042.3	23.5%
Residential	24,707.2	23,516.7	-4.8%	48,282.9	37,318.4	29.4%
Nonresidential	48,235.1	24,178.8	-49.9%	35,245.5	32,466.9	8.6%
Additions, Alterations, and Repairs	10,186.2	18,269.8	79.4%	20,285.9	14,257.0	42.3%
New Dwelling Units (no.)	328	281	-14.3%	584	469	24.4%
Employment						
Civilian Labor Force (thous.)	809.8	777.0	-4.1%	797.4	789.0	1.1%
Total Employed Persons	778.7	742.9	-4.6%	761.5	752.0	1.3%
Unemployed Persons =	31.1	34.1	9.6%	36.0	37.0	-2.8%
Percent Total Labor Force	3.8	4.4	15.8%	4.5	4.7	-4.1%
Employees on Nonagricultural Payrolls (thous. of jobs)	717.3	747.5	4.2%	723.3	691.3	4.6%
Manufacturing	105.0	109.2	4.0%	106.1	103.1	2.9%
Mining	8.6	8.7	1.2%	8.6	8.1	6.1%
Contract Construction	26.6	28.1	8.1%	27.1	25.9	4.6%
Transportation, Communication, and Utilities	42.3	44.0	4.0%	42.8	40.9	4.7%
Wholesale Trade	39.3	39.6	0.8%	40.0	38.6	3.8%
Retail Trade	138.7	144.1	3.9%	135.7	127.9	6.2%
Finance, Insurance, and Real Estate	33.9	34.5	1.8%	34.1	33.4	2.2%
Services 3	174.7	187.1	7.1%	179.3	167.2	7.2%
Federal Government	39.4	37.9	-3.8%	39.6	40.0	-1.0%
State Government 4	40.6	42.1	3.7%	41.8	40.1	4.1%
Local Government 4	68.6	71.7	4.5%	68.0	66.2	2.8%
Average Weekly Hours						
Manufacturing	40.7	40.2	-1.2%	39.9	40.0	-0.3%
Mining	41.3	44.7	8.2%	43.8	41.0	6.9%
Wholesale Trade	36.1	37.1	2.8%	37.4	37.5	-0.2%
Retail Trade	28.1	26.5	-5.7%	26.6	27.4	-2.9%
Amount of Unemployment Compensation (thous. of dol.)	5,704.1	4,996.7	-12.4%	4,892.2	5,106.7	-4.2%
Finance						
Savings, Savings and Loan Association (mil. of dol.)	2,117.8	1,155.5	-45.4%	1,623.7	2,192.8	-26.0%
Tax Collections by the State of Utah (thous. of dol.)						
Total Tax Collections	94,950.6	NA	NA	NA	158,011.4	NA
Sales and Use Tax	3,236.2	NA	NA	NA	56,794.0	NA
Motor Fuel Tax	9,232.4	NA	NA	NA	11,515.9	NA
Individual Income Tax	63,444.8	NA	NA	NA	52,969.7	NA
Corporation Franchise Tax	493.4	NA	NA	NA	5,371.1	NA
Production						
Crude Oil to Refineries (thous. of bbls.)	3,750.5	3,669.5	-2.2%	3,605.6	3,895.4	-7.4%
Crude Oil (thous. of bbl.)	2,408.7	2,235.7	-7.2%	2,291.7	2,354.0	-2.6%
Natural Gas (mil. of cu. ft.)	26,101.9	28,676.2	9.9%	26,636.2	23,044.7	15.6%
Coal (thous. short tons)	1,889.0	1,805.0	-4.4%	1,944.5	1,700.8	14.3%
Tourism/Travel						
Air Passengers (total no. on and off)(S.L. Int'l Airport)	999,137	1,010,879	1.2%	998,529	990,694	0.8%
Highway Traffic Count Across State Lines	41,914	44,930	7.2%	44,035	38,856	13.3%
Transient Room Tax (thous. of dol.)	-253.5	NA	NA	NA	557.0	NA
Visits, State, Nat'l. Parks, Monuments (thous.)	282.6	276.7	-2.1%	1,112.4	1,111.6	0.1%
Utilities						
Telephone Lines in Service (Mt. Bell)(Residential)	509,086	527,551	3.6%	517,155	500,607	3.3%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	187,570	200,469	6.9%	195,073	185,918	4.9%
Electric Customers (Residential)	488,185	NA	NA	NA	484,158	NA
Electric Customers (Commercial)	48,733	NA	NA	NA	48,158	NA
Natural Gas Customers (Residential & Commercial)	480,735	493,313	2.6%	486,655	473,242	2.8%
Natural Gas Customers (Industrial)	565	579	2.5%	573	565	1.5%

Utah Business Statistics

UTAH DATA	Dec. 1989	Dec. 1990	% Change from Year Ago	12-Month Average This Year	12-Month Average Last Year	12-Month Average % Change
Davis County						
Non-Ag. Employment (thous.)	57.7r	60.6	5.0%	59.0	56.7	4.1%
Unemployment Rate	4.3r	4.4	2.3%	4.3	4.3	-1.5%
Auth. Permit Construction (thous. of dol.)	5,543.9	5,262.1	-5.1%	10,788.5	10,089.3	6.9%
New Dwelling Units (no.)	29	41	41.4%	79	67	18.2%
Postal Receipts (thous. of dol.)	681.3	933.4	37.0%	661.5	618.6	6.9%
Electric Customers (Residential)	49,581	50,398	1.6%	50,021	49,062	2.0%
Electric Customers (Commercial)	3,647	3,739	2.5%	3,696	3,620	2.1%
Natural Gas Customers (Residential)	52,323	53,625	2.5%	52,995	51,818	2.3%
Natural Gas Customers (Industrial)	55	56	1.8%	56	55	1.7%
Telephone Lines in Service (Mt. Bell)(Residential)	57,734	61,309	6.2%	60,378	56,973	6.0%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	12,254	13,055	6.5%	12,843	11,983	7.2%
Salt Lake County						
Non-Ag. Employment (thous.)	366.2r	381.6	4.2%	368.0	352.9	4.3%
Unemployment Rate	3.7r	3.7	0.0%	4.0	4.2	-5.3%
Auth. Permit Construction (thous. of dol.)	53,385.7	28,827.2	-46.0%	46,791.4	36,654.7	27.7%
New Dwelling Units (no.)	126	91	-27.8%	202	164	23.0%
Postal Receipts (thous. of dol.)	8,989.8	8,589.5	-4.5%	7,988.2	8,209.0	-2.7%
Electric Customers (Residential)	245,500	249,030	1.4%	246,723	243,239	1.4%
Electric Customers (Commercial)	21,061	21,259	0.9%	21,191	20,906	1.4%
Natural Gas Customers (Residential)	226,484	230,947	2.0%	228,746	224,784	1.8%
Natural Gas Customers (Industrial)	246	248	0.8%	246	243	1.2%
Telephone Lines in Service (Mt. Bell)(Residential)	239,112	248,277	3.8%	243,607	235,345	3.5%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	114,181	120,942	5.9%	118,200	112,946	4.7%
Utah County						
Non-Ag. Employment (thous.)	92.9r	97.9	5.4%	93.3	87.0	7.2%
Unemployment Rate	4.5r	3.6	-20.0%	3.8	4.2	-10.2%
Auth. Permit Construction (thous. of dol.)	9,165.9	16,890.4	84.3%	17,518.1	12,539.0	39.7%
New Dwelling Units (no.)	41	52	26.8%	108	74	45.8%
Postal Receipts (thous. of dol.)	1,826.2	1,688.2	-7.6%	1,686.6	1,438.1	17.3%
Electric Customers (Residential)	53,509	NA	NA	NA	53,208	NA
Electric Customers (Commercial)	6,398	NA	NA	NA	6,165	NA
Natural Gas Customers (Residential)	63,895	65,588	2.6%	64,590	63,131	2.3%
Natural Gas Customers (Industrial)	74	74	0.0%	74	74	0.0%
Telephone Lines in Service (Mt. Bell)(Residential)	67,398	68,604	1.8%	67,100	66,315	1.2%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	19,790	21,665	9.5%	20,947	20,768	0.9%
Weber County						
Non-Ag. Employment (thous.)	64.6r	66.5	2.9%	66.6	63.9	4.2%
Unemployment Rate	5.5r	6.0	9.1%	5.6	5.5	1.4%
Auth. Permit Construction (thous. of dol.)	5,551.2	2,126.6	-61.7%	6,447.5	6,261.5	3.0%
New Dwelling Units (no.)	53	17	-67.9%	40	46	-12.7%
Postal Receipts (thous. of dol.)	925.5	897.1	-3.1%	728.5	687.4	6.0%
Electric Customers (Residential)	54,636	55,209	1.0%	54,879	54,259	1.1%
Electric Customers (Commercial)	5,074	5,065	-0.2%	5,100	5,032	1.3%
Natural Gas Customers (Residential)	50,991	51,873	1.7%	51,389	50,613	1.5%
Natural Gas Customers (Industrial)	83	81	-2.4%	82	84	-2.2%
Telephone Lines in Service (Mt. Bell)(Residential)	47,910	47,601	-0.6%	47,050	47,409	-0.8%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	12,512	13,396	7.1%	13,217	12,263	7.8%

1 Obtained from U.S. Bureau of the Census Construction Statistics Division.
2 Obtained from *Utah Construction Report*.
3 Includes services by nonprofit and religious organizations.
4 Includes public schools and college institutions.

NA Not Available
r Revised

Sources:

Personal Income	U.S. Department of Commerce, Bureau of Economic Analysis.
New Corporations	Utah Secretary of State.
New Car and Truck Sales	Utah State Tax Commission, Economic and Statistical Unit.
Agriculture	U.S. Department of Agriculture, Utah Agricultural Statistics Service, *Utah Agriculture*.
Construction Data	U.S. Bureau of the Census and Bureau of Economic and Business Research, *Utah Construction Report*.
Employment Data	Utah Department of Employment Security.
Savings Information	Utah Savings and Loan Institutions.
Tax Collections	Utah State Tax Commission.
Crude Oil Production	Utah Department of Oil, Gas, and Mining and Area Oil Refineries.
Natural Gas Production	Utah Department of Oil, Gas, and Mining.
Coal Production	U.S. Department of Energy.
Air Passengers	Salt Lake City International Airport, Statistics Division.
Highway Traffic Count	Utah Department of Transportation.
Visits to State and National Parks and Monuments	U.S. Forest Service, Utah State Parks and Recreation Department.
Utilities Data	Cooperating Utah Utility Companies.
Postal Receipts	Postmasters in Davis, Salt Lake, Utah, and Weber Counties.

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NATIONAL DATA	Dec. 1989	Dec. 1990	% Change from Year Ago	12-Month Average This Year	12-Month Average Last Year	12-Month Average % Change
U.S. Gross National Product (seasonally adjusted) (bil.) (qtly.)	5,289.3	5,527.3	4.5%	5,465.2	5,200.8	5.1%
Total Personal Income (seasonally adjusted) (bil. of dol.)	4,496.7	4,743.3	5.5%	4,645.5	4,384.3	6.0%
Industrial Production Indexes (seasonally adjusted) (1987=100)	108.6	107.2	-1.3%	109.2	108.1	1.0%
New Plant and Equipment Expenditures by Business (bil.) (qtly.)	519.6	532.8	2.5%	533.9	506.0	5.5%
Net Exports of Goods and Services (bil.) (qtly.)	-35.3	-28.8	-18.4%	-31.3	-46.1	-32.2%
Exports of Goods and Services (bil.) (qtly.)	642.8	697.4	8.5%	672.8	626.3	7.4%
Imports of Goods and Services (bil.) (qtly.)	678.1	726.2	7.1%	704.1	672.3	4.7%
Index of Leading Indicators (1982=100)	145.3	139.7	-3.9%	143.9	144.9	-0.7%
Price Indexes						
Consumer Price Indexes (not seasonally adjusted) (1982-84=100)						
CPI-U (All Urban Consumers) All Items	126.1	133.8	6.1%	130.7	124.0	5.4%
CPI-U (All Urban Consumers) Food & Beverages	127.2	133.9	5.3%	132.1	124.9	5.8%
CPI-U (All Urban Consumers) Housing	124.9	130.5	4.5%	128.5	123.0	4.5%
CPI-U (All Urban Consumers) Transportation	115.2	127.2	10.4%	120.5	114.1	5.6%
CPI-U (All Urban Consumers) Medical Care	154.4	169.2	9.6%	162.8	149.3	9.1%
CPI-U (All Urban Consumers) Energy	93.2	110.1	18.1%	102.1	94.3	8.2%
Producer Price Index (not seasonally adjusted) (1982=100)						
Producer Price Index, All Finished Goods	115.3	121.9	5.7%	119.1	113.5	4.9%
GNP Price Deflator (1982=100) (qtly.)	128.0	133.1	4.0%	131.5	126.3	4.1%
Civilian Employment (seasonally adjusted)						
Total Civilian Labor Force (mil.)	124.5	125.2	0.6%	124.8	123.8	0.8%
Total Civilian Employment (mil.)	118.0	117.6	-0.3%	117.9	117.3	0.5%
Unemployment Rate	5.3	6.1	15.1%	5.5	5.3	5.1%
Construction						
Total Construction (mil. of dol.)	18,814.0	13,405.0	-28.7%	19,280.7	22,462.0	-14.2%
Residential	7,442.0	5,308.0	-28.7%	8,750.3	10,203.0	-14.2%
Nonresidential	8,006.0	5,393.0	-32.6%	6,741.5	8,185.4	-17.6%
Non-Building	3,365.0	2,704.0	-19.6%	3,788.9	4,073.5	-7.0%
New Dwelling Units (no.)	84,551	56,574	-33.1%	94,150	115,044	-18.2%
Interest Rates						
Federal Funds Rate	8.45	7.31	-13.5%	8.10	9.22	-12.1%
Short Term (3-month Treasury bill rate)	7.64	6.81	-10.9%	7.51	8.12	-7.5%
Long Term (30-year Treasury bond yields)	8.02	8.31	3.6%	8.73	8.59	1.7%
Prime Rates Charged by Banks on Short-term Business Loans (avg.)	10.50	10.00	-4.8%	10.01	10.87	-7.9%
Mortgage Rates (new homes)	9.70	9.45	-2.6%	9.68	9.76	-0.8%

Sources: *Survey of Current Business*, U.S. Department of Commerce: U.S. Gross National Product, Total Personal Income, Industrial Production Indexes, New Plant and Equipment Expenditures by Business, Export/Import Data, Index of Leading Indicators, GNP Price Deflator, National Employment Data, Interest Rates.

F.W. Dodge Report, McGraw-Hill: National Construction Data.

Monthly Labor Review, U.S. Department of Labor, Bureau of Labor Statistics: Consumer Price Indexes, Producer Price Index.

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